C) REMARKS

Introduction

As a preliminary matter, claim 10 has been amended to correct an inadvertent omission from that claim when it was amended in Amendment A. Claims 1 and 10 have been further amended in view of the Examiner's comments made in the March 29, 2006 Office Action, as will be discussed in more detail below. Additionally, claims 8 and 17 have been amended to clarify that the distribution system and the leaching system can alternatively comprise a dry well, a seepage pit, or a combination of a distribution box and an absorption field.

Claims 1-3, 5, 7-9, 10-12 and 16-18

The Examiner rejected claims 1-3, 5, 7-9, 10-12 and 16-18 under 35 USC § 103(a) as being obvious over Japanese reference JP 41-151480 (JP '480) in view of U.S. Patent No. 6,861,248 to Dale (Dale). In JP '480, at Fig. 2, an inflow route 11 is identified, as is a discharge route 13. The discharge route 13, however, very clearly starts at a "membrane separation apparatus" 12. In Fig. 2, JP '480 identifies a blower 15B and a pump 14P, the purpose of which is to circulate and stir the water in the tank 10. Although the Examiner identifies element 15a as an "air sparger or an air stone" (Office Action at Page 2), that element is not identified or discussed in the Abstract of JP '480. Applicant respectfully submits that this lack of information in JP '480 makes any identification or discussion concerning element 15a speculative at best.

Perhaps even more significant is the fact that there is absolutely no discussion in the Abstract of JP '480 as to how the membrane separation apparatus 12, which is identified in the Abstract of JP '480, is functionally related to element 15a, whatever

element 15a may be. Clearly, in Fig. 2 of JP '480, the membrane separation apparatus 12 is located directly above element 15a. Assuming that all of the unidentified circular shapes shown in that Fig. 2 emanate from element 15a, it is obvious that all of those circular shapes also pass through the membrane separation apparatus 12. Applicant submits that there is simply not enough disclosure made in JP '480 to draw the conclusion that the simple functionality of element 15a is to blow air bubbles into the tank 10, which conclusion requires that one completely ignore the purpose and functionality of the membrane separation apparatus 12 and how it is related to element 15a. This assumption is further blurred when one references Figs. 3, 5 and 6 of JP '480, each of which shows something other than unidentified round objects that emanate from element 15a and pass through element 12. Those figures illustrate squiggly lines of something emanating from element 15a.

The significance of this lack of clarity as to the interrelatedness of elements 12 and 15a of JP '480 bears directly on the test that is to be applied when considering whether claims are "obvious" in view of certain prior art. Three basic criteria must be met in order to establish a *prima facie* case of obviousness. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all of the claim limitations. The teaching or suggestion to make the claimed combination must be found in the prior art, and not based on the applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). Combining prior art

references without evidence of such a suggestion, teaching, or motivation simply takes the inventor's disclosure as a blueprint for piecing together the prior art to defeat patentability is the essence of impermissible hindsight. *In re Dembiczak,* 175 F.3d 994, 999 (Fed. Cir. 1999). In other words, the examiner must show reasons that the skilled artisan, confronted with the same problems as the inventor and with no knowledge of the claimed invention, would select the elements from the cited prior art references for combination in the manner claimed. For example, see *Teleflex v. KSR International,* 119 Fed. Appx. (Fed. Cir. (Mich.) Jan. 6, 2005, No. 04-1152).

The method and apparatus of the present invention provides for remediation of a failing anaerobic wastewater treatment system by temporarily introducing oxygen to the anaerobic environment by means of an air stone, thus temporarily transforming it into a wastewater treatment system that specifically uses aerobic bacteria to facilitate the treatment process. In addition to the complete lack of explanation as to how elements 12 and 15a interact, the word "bacteria," aerobic or anaerobic, does not appear anywhere in the Abstract of JP '480.

Applicant respectfully submits that this gap in JP '480 cannot be filled by the reference to Dale, regardless of how it is considered. Dale discloses and claims a method for producing an ethanol "beer" solution. It is not a wastewater treatment method or apparatus. Moreover, there is absolutely no hint or suggestion in Dale that aerobic bacteria would be activated using that method. The word "aerobic" appears three times in the specification portion of Dale, and it doesn't appear at all in the claims. In fact, applicant respectfully submits that Dale actually teaches away from the present invention when, at Col. 2, Lines 34-36, Dale states, "Trace oxygen can serve as a

nutrient *during the anaerobic fermentation* of sugars, allowing the fermentation rate to increase with more cells produced." (emphasis added) In short, the Dale reference is not a patent from which one would learn much if attempting to fill in the gaps of JP '480.

It is also to be noted that claims 1 and 10 have been amended in view of the Examiner's comment regarding the "conspicuous absence of the septic tank, the outlet, the distribution system, and the leaching system from the body of claim 1, for example." (Office Action at page 3) The applicant has amended claims 1 and 10 to make it clear that the proliferation of aerobic bacteria to aid in remediation is made within the septic tank, within the distribution system (which arguably includes the septic tank outlet) and within the leaching system. Even assuming that JP '480 was a device used to aid in the proliferation of aerobic bacteria, such is limited to the treatment tank 10. Accordingly, claims 1 and 10 are further distinguishable from the prior art references for that reason alone.

As to claims 7 and 16, there is no hint or suggestion in either the JP '480 reference or the Dale reference that anaerobic, aerobic or facultative bacteria be introduced during the method, or that means for introducing such bacteria be included with the apparatus, of the present invention.

In view of the foregoing, claims 1-3, 5, 7-9, 10-12 and 16-18, particularly in view of the amendments to claims 1 and 10, are believed to be in condition for allowance and allowance is respectfully requested.

Claims 1 and 5

The Examiner also rejected claims 1 and 5 under 35 U.S.C. 103(a) as being obvious over Japanese reference JP11-253942 (JP '942) in view of Dale. The applicant

respectfully suggests that the shortcomings of JP '480 are also found in JP '942. JP '942 similarly includes a membrane separator 7 and an air diffuser 11 that "is arranged below the member cartridge in the membrane separator 7." (Abstract of JP '942) There is no mention of bacteria, aerobic or anaerobic, and the relationship between the membrane separator 7 and the diffuser 11 is not defined or explained. One could assume that the device of JP '942 is for use in a small fish tank and that the presence of a diffuser is to simply assist in the movement of waste particulates into the membrane separator. There simply isn't enough information presented to conclude that the diffuser 11 of JP '942 is intended to provide an air supply, and on a temporary basis, for the proliferation of aerobic bacteria. For the reasons mentioned earlier, Dale is not a patent that one would look to in attempting to intermittently activate aerobic bacteria and then activate anaerobic bacteria to assist in wastewater remediation. Accordingly, claims 1 and 5 are believed to be in position for allowance for the reasons mentioned above.

Claims 6 and 15

Claims 6 and 15 were rejected under 35 USC § 103(a) as being obvious over JP '480 in view of Dale, as applied to claims 1 and 10, respectively, further in view of published patent application US 20030113908 A!. For reasons stated earlier, claims 6 and 15 are also believed to be in position for allowance as they depend from allowable claims.

Conclusion

The applicant respectfully submits that he is the first to come up with the idea of inserting a sintered air stone directly into the dry well/seepage pit or into the distribution box that is linked to an absorption field of a wastewater treatment system. Accordingly,

the applicant has provided a new, useful and non-obvious method for inexpensively and temporarily converting an anaerobic septic system to an aerobic system for a period of time to reduce the biomat created by anaerobic bacteria that reduces the performance of the anaerobic system. For his ingenuity, he is entitled to the protection of the United States patent laws. Allowance of the remaining claims is respectfully requested.

Respectfully submitted,
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